



Department of Energy
Washington, DC 20585

December 20, 2005

Dear ENERGY STAR Partners and Stakeholders:

The purpose of this letter is to provide for your review and comment the draft ENERGY STAR Criteria for Dishwashers. The Department of Energy (Department) anticipates issuing the final criteria version in January 2006 with an effective date of January 1, 2007. This version was developed from formal comments and feedback gathered from the July 13, 2005, criteria revision meeting in Washington, DC. All of the comments and suggestions received provided insightful ideas and guidance, which greatly assisted the Department in developing the draft criteria. The Department wishes to thank all partners and stakeholders who actively participated in this process.

After evaluating all partner and stakeholder comments and the existing product and market analyses, the Department proposes the criteria as follows:

- **Effective Date:** The effective date will be January 1, 2007.
- **Energy Factor (EF) – Standard Models:** The requirement increases from 0.58 to 0.65, which is 41% above the Federal standard.
- **Energy Factor– Compact Models:** Based on substantial partner support, the Department is introducing this product type into the criteria and is setting an initial EF of 0.88. This EF level was chosen to provide consistency between the standard and compact products – an EF of 0.88 is 42% above the Federal standard.

Unlike clothes washers, the dishwasher EF equation does not factor in the size of the unit. The equation is the reciprocal of the sum of the machine electrical energy per cycle plus the water heating energy consumption per cycle and is expressed in cycles per kilowatt-hour. The compact dishwasher EF will be greater than a standard size because the machine uses less hot water (water heating accounts for 56 percent of the dishwasher energy usage) and energy since the motor is smaller, the jets do not need to be as powerful, and there are fewer dishes to both wash and dry.

While there were comments supporting additional efficiency performance metrics, the Department believes this version will offer an immediate benefit to consumers, while providing an achievable level for industry by 2007. This criteria revision is expected to:

- **Provide meaningful differentiation between ENERGY STAR qualified products and those just meeting the Federal standard:** The current number of ENERGY STAR qualified dishwasher models available in the market is approximately 508, which is 92.5 percent of all available models. Increasing the EF to 0.65 will decrease the number of qualified products to 81, or 15 percent of all currently available models, thus re-establishing a more suitable degree of differentiation between ENERGY STAR qualified products and standard efficiency products.

- Provide significant energy savings: Establishing an EF of 0.65 for standard models and an EF of 0.88 for compacts will result in an energy savings of 136 kWh/year per unit or 160,886 MWh/year assuming an ENERGY STAR qualified dishwasher market penetration of 25 percent.
- Provide ample consumer choice, cost effectively, both in terms of the number of models and a wide range of manufacturers: Though the overall number of ENERGY STAR qualified dishwashers will drop significantly with this criteria revision, there are existing dishwashers across most manufacturers and brands that currently meet or exceed the proposed EF levels. Based on conversations with manufacturers, the Department is confident that by January 1, 2007, every manufacturer will have at least one qualified dishwasher in the marketplace.

These updated ENERGY STAR Criteria for Dishwashers raise the requirements generating more efficient products for the marketplace. However, the Department realizes there are topics requiring further study to identify if they are appropriate for incorporation into a next criteria revision, possibly in 2010. Research topics are:

Standby Power:

Most partners and stakeholders supported the establishment of a standby power requirement of less than 1W within a total kWh/year requirement. The Department feels setting a minimum EF of 0.65 will eliminate the need to add a maximum standby power requirement. But, the Department will further investigate the benefits of revising the criteria from EF, a per cycle metric, to a maximum allowable annual energy use, which would include standby power.

Water Factor:

The majority of the partners and stakeholders stated that water and energy use are correlated; therefore, raising the EF will automatically increase the water efficiency. They also expressed the concern the establishment of a stringent Water Factor could adversely affect and constrain dishwasher performance. However, other stakeholders believe the EF and Water Factor are not strongly correlated, necessitating the establishment of a Water Factor for dishwashers.

Based on these arguments and the limited concrete information on dishwasher water use by cycle, the Department proposes not to institute a Water Factor for dishwashers at this time. Instead the Department will begin gathering comprehensive data on water use by cycle to determine whether a Water Factor or a maximum water use level is needed in the next criteria revision.

Pre-Rinse Education:

Most comments identified pre-rinsing or hand washing dishes as the main source for high water use, which can use up to 20 gallons per load, compared to the 10 gallons used by the most inefficient non-qualified dishwashers. The Department will also facilitate pre-rinse/hand-wash water use research to assist the launch of a consumer education campaign in 2006-2007.

Dishwasher Performance:

During the July 13th meeting, a partner suggested that the Department incorporate performance metrics into the ENERGY STAR criteria. Their recommendation was to include a requirement that all ENERGY STAR qualified dishwashers score a minimum of 85 on the Association of Home Appliance Manufacturers (AHAM) DW-1 test procedure for product performance. Other organizations state that product performance is the main differentiation component in the current dishwasher market, and,

therefore, should not be compromised by establishing minimum performance requirements within the ENERGY STAR program.

While the Department is intrigued by the idea of dishwasher performance metrics, there is insufficient information and data to incorporate performance requirements by January 1, 2007. The Department will work with industry organizations to review the AHAM test procedure to identify potential benefits and barriers for use within ENERGY STAR. The Department will also work with partners and stakeholders to identify other performance metrics to consider for the next criteria revision.

IMPLEMENTATION

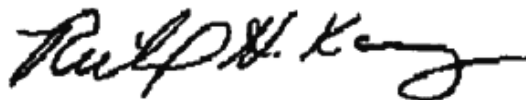
To assist in the research and analysis of the above topics, the Department invites all interested parties to participate in an ENERGY STAR Dishwasher Working Group. The Department, with the assistance of D&R International, will lead this group to hold periodic conference calls or meetings to discuss ongoing research, new findings, or to share new analyses.

If you are interested in participating in this working group, please send your contact information (name, organization, e-mail, and phone number) to Mr. Josh Butzbaugh at jbutzbaugh@drintl.com by January 31, 2006. As this group is formed, further details will be provided.

Please provide any formal comments on the draft ENERGY STAR Criteria for Dishwashers by January 17, 2006. Send all comments to me at richard.karney@ee.doe.gov or by fax at 202-586-4617 and to Mr. Bill McNary at bmcnary@drintl.com. Comments will be posted at: http://www.energystar.gov/index.cfm?c=revisions.dishwash_spec

Thank you for your continued support of the ENERGY STAR program.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard H. Karney". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Richard H. Karney, P.E.
ENERGY STAR Program Product Manager